

REMARKS/ARGUMENTS

Claims 7-9 are pending herein and have been amended hereby to correct matters of form and for clarification purposes only. Applicants respectfully submit that support for the rewritten claims can be found, for example, on page 7 of the original specification, and that no new matter has been added. Applicants respectfully submit that this Amendment is proper under Rule 116 because the changes effected hereby do not create new issues that require further search and consideration and merely place the application in better condition for appeal, if necessary. Accordingly, entry of this Amendment is respectfully requested.

1. The objection to claims 7-9 is noted, but deemed moot in view of the rewritten claims submitted above, which were rewritten according to the PTO's suggestions. Accordingly, Applicants respectfully request that the above objection be reconsidered and withdrawn.
2. The §112, second paragraph rejection of claims 7-9 is noted, but deemed moot in view of the rewritten claims submitted above, which were rewritten according to the PTO's suggestions. Accordingly, Applicants respectfully request that the above rejection be reconsidered and withdrawn.
3. The §112, first paragraph rejection of claims 7-9 is noted, but deemed moot in view of the rewritten claims submitted above and for at least the additional reasons explained below.

The PTO asserted that the limitation of "enhance a decomposition rate of indigenous pollutants in the waste water system to accelerate water purification" in claims 7-9 does not have an adequate support from the specification (see Office Action, page 4, lines 10-12). Applicants respectfully disagree.

The specification repeatedly describes how the effective microorganisms contribute to the decomposition of materials in waste water that are not otherwise

affected by aerobic bacteria (see, e.g., original specification paragraphs [0005]-[0009] and [0014]). Moreover, Applicants respectfully submit that original claim 6 also properly supports that limitation in that original claim 6 recited that the effective microorganisms enhance a self-decomposition rate after use to accelerate water purification. In light of the foregoing explanations and in view of the rewritten claims submitted above, Applicants respectfully request that the above rejection be reconsidered and withdrawn.

4. Claims 7-9 were rejected under §103(a) over Higa in view of Bradford. To the extent that the PTO might attempt to assert this rejection against the rewritten claims submitted above, it is respectfully traversed.

Independent claim 7 recites a method of producing a soap product comprising providing facultative anaerobic effective microorganisms including at least lactic acid bacteria, yeast and photosynthetic bacteria or a fermented material containing facultative anaerobic effective microorganisms including at least lactic acid bacteria, yeast and photosynthetic bacteria, and providing a ceramic powder catalyst by forming a mixture of a clay and a condensed liquid of an antioxidant substance produced by effective microorganisms to form a mixture. The method also includes aging the mixture, baking the mixture, compounding the effective microorganisms and the ceramic powder catalyst and adding the compounded effective microorganisms and the ceramic powder to a soap product raw material and mixing. The method further includes performing emulsification and saponification, wherein the ceramic powder catalyst enhances a degree of saponification of the soap product during the production thereof. After the soap product is introduced into a waste water system, the effective microorganisms provided thereby proliferate in the waste water system to enhance a decomposition rate of the soap product itself as well as a decomposition rate of indigenous pollutants in the waste water system to accelerate water purification. Claims 8 and 9 each depend from rewritten independent claim 7.

The PTO admitted that Higa does not teach the claimed process, but asserted that “the method of making a function [sic., functional] ceramic by mixing EM, as a culture fluid, thus containing an antioxidant, with a clay followed by drying (interpreted as aging) and calcination (interpreted as baking)(col. 3, 9-31), taught by Higa is considered the same as the method steps of forming ceramic powder catalyst and mixing with EM claimed in the instant invention” (Office Action, page 5, last 5 lines).

The PTO also admitted that Higa does not teach using a raw material (e.g., fat) along with emulsification and saponification. In an attempt to overcome this deficiency, the PTO applied Bradford and asserted that fats are known to be used in soap production, and that Bradford teaches emulsification and saponification as steps for generating soap. Along those lines, the PTO asserted that “since the functional ceramic product of Higa is useful for deodorizing and cleaning, a person of ordinary skill in the art would recognize that the product of Higa would be formed as a soap product, and it would have been obvious to a person of ordinary skill in the art to try processes of Bradford for the production of soap using the composition of Higa with a reasonable expectation of success” (Office Action, page 6, lines 4-8). Applicants respectfully disagree with the PTO’s assertions for at least the reasons explained below.

As explained in the Amendment filed July 23, 2009, the entire remarks of which are incorporated herein, the soap product according to the present invention is provided as an alternative to conventional household soaps/detergents, whereby less is used for household applications, and thus less is loaded into the waste water treatment systems. When the soap product is introduced into the waste water systems, the effective microorganisms contained therein naturally proliferate benign microorganisms in conjunction with the sewage water in which it is discharged. Anaerobic bacteria contained in the proliferated microorganisms coexist and contribute to the production of decomposition enzymes. Because of the concurrent

metabolism mechanism, environmental pollution substances in the sewage water are decomposed as the detergent decomposes. In effect, the soap product according to the present invention acts as a purification source in the sewage water, suppresses the proliferation of malign bacteria therein, and reduces the occurrence of soap scum deposits and malodorous substances in sinks, tubs, etc.

Applicants respectfully submit that although Higa's products are useful for deodorizing air and cleaning water, these advantages are attributable to the porous property of a single ceramic. On the other hand, in the present invention, the ceramic used is dipped in fats, so that the porous property of the ceramic is thereby inhabited and the above advantages attributable to the porous ceramic according to Higa, such as deodorizing and cleaning, cannot be obtained. Therefore, Applicants respectfully submit that one skilled in the art would not have seen any logical reason to use ceramics in fats, and would not have expected any predictable benefits with respect to using ceramics in fats, during the production of soap products, since the important porous properties of the ceramic utilized according to Higa would otherwise be rendered useless.

The PTO indicated that no patentable weight was given to the limitation that the ceramic powder catalyst enhances a degree of saponification of the soap product, and the limitation of the "wherein" clause, and asserted that these limitations are merely intended results (see Office Action, page 6, lines 9-14). Applicants respectfully submit that this position is improper.

That is, enhancing the degree of saponification of the soap product contributes to the removal of remaining extra alkaline components, which enables the provision of an excellent soap product which does not cause skin roughness or irritation. In addition, as the degree of saponification is enhanced, the more fats are digested, so that the soap components are digested after being used, and effective cleaning is achieved using only a small amount of soap.

Furthermore, Applicants respectfully submit that the antioxidant material, which is included as one of the components in the EM, serves as a basis to grow benign microorganisms in the circumstances after being used and introduced into the waste water system, whereas such a material is not otherwise included in conventionally known soaps. The benign microorganisms have the ability to clean and the surviving microorganisms in the EM in the soap contribute to increasing the degradation rate in sewerage system with their cleaning abilities. Applicants respectfully submit that one skilled in the art could not have realized the specific combination of these features based on the teachings in the applied references without otherwise necessarily relying on the disclosure in the present application as a guide. However, it is well settled that such an impermissible application of hindsight-based reasoning is improper. The basic and novel features of the present invention should not be ignored by the PTO when considering the patentability of the claims.

For at least the reasons explained above, Applicants respectfully submit that the applied references fail to disclose or suggest each and every feature recited in independent claim 7. Accordingly, Applicants respectfully submit that all claims pending herein define patentable subject matter over the applied references, and respectfully request that the above rejection be reconsidered and withdrawn.

5. Claims 7-9 were rejected under §103(a) over Irie in view of Bradford. To the extent that the PTO might attempt to assert this rejection against the rewritten claims submitted above, it is respectfully traversed.

Independent claim 7 is discussed above in Section 4.

The PTO admitted that Irie fails to disclose or suggest that the EM is a facultative group of lactic acid bacteria, yeast and photosynthetic bacteria, but asserted that it would have been obvious to combine the known EM for the same purpose (see Office Action, page 8, lines 8-9). The PTO also admitted that Irie does not teach the claimed process, but asserted that since the EM-X ceramic taught by Irie is considered

the same product disclosed in the instant specification (see, e.g., page 3 of the original specification), "it is considered the EM-X ceramic of Irie is made by the same process claimed in the current invention" (see Office Action, page 8, lines 13-16).

Irie discloses a method where a ceramic is used by being immersed in water. Applicants respectfully submit, however, that Irie fails to disclose or suggest anything with respect to the saponification of the soap product. Accordingly, Applicants respectfully submit that the combination of Irie and Bradford fail to provide any teaching that could have possibly lead one skilled in the art to conclude, or even reasonably expect, that the proliferation of effective microorganisms is facilitated and promoted by the saponification of the soap product, so that the used soap product in sewage water is therefore cleaned by the presence of those microorganisms, as claimed.

Moreover, Applicants respectfully submit that the alkaline component in the conventional soap provides the function of cleaning material in water. On the other hand, Applicants respectfully submit that the organic acid component in a fermented solution exhibits mild to acidic characteristics and the organic acid component provides the function of deodorizing air. Applicants respectfully submit that one skilled in the art would readily recognize that when an alkaline component in a conventional soap and an organic acid component in a fermented solution are combined, the resultant solution would be neutral and would be expected to lose both the cleaning and deodorizing function previously attributable to the respective components. Accordingly, Applicants respectfully submit that the combination of conventional soap and a fermented solution would not have been obvious to one skilled in the art.

For at least the foregoing reasons, Applicants respectfully submit that the applied references fail to disclose or suggest each and every feature recited in independent claim 7. Accordingly, Applicants respectfully submit that all claims

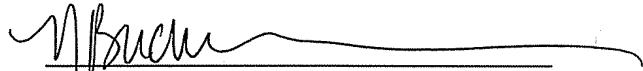
pending herein define patentable subject matter over the prior art of record, and respectfully request that the above rejection be reconsidered and withdrawn.

If the Examiner believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

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Date



Stephen P. Burr
Reg. No. 32,970

Nicole J. Buckner
Reg. No. 51,508

SPB/NB/tlp

BURR & BROWN
P.O. Box 7068
Syracuse, NY 13261-7068

Customer No.: 025191
Telephone: (315) 233-8300
Facsimile: (315) 233-8320